

Calendar

Wednesday, September 15

3:30 p.m. Director's Coffee Break - 2nd Floor X-Over

4:00 p.m. Fermilab Colloquium - 1 West
Speaker: M. Witherell, Fermilab

Title: The International Linear Collider and Fermilab's Role In It

Thursday, September 16

THERE WILL BE NO THEORETICAL PHYSICS SEMINAR THIS WEEK

3:30 p.m. DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over

4:00 p.m. Accelerator Physics and Technology Seminar - (NOTE LOCATION) Huddle (near the Control Room)

Speaker: J.-P. Carneiro, DESY

Title: Photo-Injectors of DESY Superconducting SASE FEL's

Wilson Hall Cafe

Wednesday, September 15

Vegetable Beef soup

Quarter Pound Hot Dog in a Soft Pretzel Rool \$4.75

Stuffed Peppers \$3.75

Country Fried Steak with Pepper Gravy \$3.75

Beef & Cheddar Panini w/ Sauteed Onions \$4.75

Assorted Personal Sized Pizzas \$2.75

Cavatappi Pasta with Italian Sausage & Tomato Ragu \$4.75

[Wilson Hall Cafe Menu](#)

[Chez Leon](#)

Weather

Fermilab's Safety Incentive Program Achieves New Records

A little more than a year ago, ES&H introduced a safety incentive program for employees. Fermilab's [Laboratory Safety Committee](#) developed a Web page that keeps track of the number of days since the last DART (injuries involving Days

Away from Work, Restricted work or Transferred) case. Once all Divisions and Sections reach seventy-five days or more without a DART case, a computer randomly selects three employees per day who have their names listed

on the LSC homepage and receive a Fermilab polo shirt.

One year later the safety incentive program is without a doubt a success. As of yesterday, 111 employees have received polo shirts from the LSC, and Fermilab has had 111 consecutive days without a DART case. This surpasses the former record of 108 days without a DART case. "People are clearly paying a great deal of attention to safety and the planning of their work," said ES&H head Bill Griffing. "Even though the record is great, the most gratifying thing is to see the decrease in the number of injuries at the lab." If you are one of the 111 employees who have been notified about



James Mulvey of PPD was the 100th employee to win a polo shirt from the LSC. (Click on image for larger version.)

Shutdown News

Shutdown Work on Schedule



Newly installed shielding (red) surrounds the NuMI magnets and protects the Recycler storage ring (above) from unwanted magnetic fields. (Click on image for larger version.)

The Fermilab accelerator complex is in the fourth week of a scheduled shutdown. Since August 23, hundreds of employees have worked on installing new equipment, making repairs and carrying out regular maintenance tasks. From the Computing Division to the Particle Physics Division, employees from around the lab are helping the Accelerator Division to meet the tight schedule.

According to Roger Dixon, head of the Accelerator Division, the installation of electron cooling and the work on the NuMI beam line are the two most important shutdown projects, representing the critical paths to complete the shutdown.

The Ecool project requires the installation of cooling tanks in the Recycler beam line in the Main Injector tunnel. "The planning for the installation of Ecool is going really well," said Bob Mau, who coordinates all shutdown work. "The Ecool group reduced its schedule from 15



Chance Thunderstorms **84°/58°**

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winning a polo shirt but have not yet picked up your shirt, please contact Bill Griffing (x8069) or Liz May (x8277) to arrange a time to pick it up.

TeV4LHC Workshop Starts Tomorrow



TEV LHC Poster (Click on image for larger version.)

The first in a series of TeV4LHC workshops will start at Fermilab tomorrow and will run through Saturday. Physicists from Fermilab and institutions around the U.S. and Europe will meet to discuss how data and experiences from the Tevatron can be used in preparing for the LHC experimental program. The workshop will include overviews of the physics challenges at the Tevatron and those expected at the LHC, and several working groups will hold parallel sessions to discuss the overlap of physics at the LHC and the Tevatron and to make plans for more detailed studies. All Fermilab employees and users are invited to the workshop.

[Conference Web page](#)

In the News

to 13 weeks, and they are right on schedule." When operational later in 2005, Ecool will reduce the size of the antiproton beam inside the Recycler, leading to higher Tevatron luminosity.



Bob Mau

The NuMI beam line will extract protons from the Main Injector and transport them to the NuMI target hall, producing neutrinos for the MINOS experiment. "The major magnets of the new beam line were installed during the 2003 shutdown," said NuMI physicist Rob Plunkett. "Now we are working on the hookups." In the last few weeks technicians have installed custom-designed shielding to protect the Recycler beam line, which runs past the NuMI beam extraction point.

Additional work is going on in all accelerators, from the installation of a new prototype cavity in the Booster to improving the stacking rate of the Antiproton Source by installing motorized stands for magnets. Fermilab Today will highlight the most important projects in more detail in the next couple of months.

Announcements

NUMI Tours for Employees and Users Full

The Education Office received an overwhelming response from employees and users who would like to take a tour of the NUMI tunnel and the MINOS near detector hall. All of the currently scheduled tours are now full. To request additional tours, please send an email to [Nancy Lanning](#).

From *The Tartan*, September 14, 2004

How Things Work: Particle Accelerators

by Peter Battaglin

Physics is pretty complicated stuff. So complicated, in fact, that physicists often have to resort to violent tactics in order to probe the subatomic universe: they smash atoms. Doing physics with an atom smasher is a little bit like dropping a monitor off the eighth floor stairwell of Wean Hall and trying to figure out how it works from the little pieces of glass, wire and circuit-board left over. But the atoms go a lot faster, there are a lot more pieces at the end, and above all, it costs a lot more tax money.

Atom smashers, more accurately known as particle accelerators, boost charged particles like electrons and positrons or heavy ions and their anti-particles to almost the speed of light and then heave them into one another. If they collide, an explosion of so-called "daughter" particles is produced, many of which decay into further daughters, and so on. This explosion occurs inside a strong magnetic field, which causes all of the charged particles produced to bend in circular arcs, the curvature of which can be used to deduce which particle is what. This typically happens on the order of a billion times each second.

[Read more](#)

NALWO Talk on Peru

NALWO invites Fermilab women to a talk on Peru by Cynthia Albright on Thursday, September 19 at 10:00 a.m. at the Users' Center. Refreshments will be served. Contact [Sue Mendelsohn](#) at x5059 or click here for [more information](#).

International Folk Dancing

International Folk Dancing will be held at 7:30 p.m. Thursday, Sept. 16, at the Geneva American Legion Post. Newcomers are always welcome. Info at 630-584-0825 or 630-840-8194 or folkdance@fnal.gov.

Wilson Hall Elevator Maintenance

Elevator 1 and Elevator 4 will be out of service on Thursday from 9:00 a.m. to 11:00 a.m. for maintenance. Elevator 2 and Elevator 3 will be out of service on Friday from 9:00 a.m. to 11:00 a.m. for maintenance. For more information contact Stan Boyson at x4753.

Listserv Downtime Scheduled

As part of the listserv upgrade process the system will be unavailable from 6:00 a.m. to about 7:30 a.m. on Thursday, September 16 when DNS is reloaded. More information is [available online](#).

Upcoming Power Outages September 24

Wilson Hall (and all of Fermilab except for the Village and the Main Injector) will have no power for half an hour beginning around 7:00 a.m.